

REMARKS

Receipt of the Office Action of April 15, 2005 is gratefully acknowledged.

The objection to claim 50 is noted. Claim 55 has been amended to render this objection moot.

The rejection of claims 14-16, 20-23, 28, 33-36, 47, 48, 50, 55, 61 and 62 as unpatentable under 35 U.S.C. 103(a) over Otto et al. in view of Woodward et al. The rejection of claims 17-19, 24-26, 37-40, 45 and 46 as unpatentable under 35 U.S.C. 103(a) over Otto et al. in view of Woodward et al. and Fehrenbach et al.; and the rejection of claims 29-32, 49, 51-54 and 56-58 as unpatentable under 35 U.S.C. 103(a) over Otto et al. in view of Woodward et al. and McEwan are noted and respectfully traversed.

Considering Otto et al. at col. 5, lines 15 - 43 in connection with col. 4, lines 15 ff. and col. 7, lines 34 f., or Woodward et al. at col. 1, line 30 in connection Pantan et al. at col. 4, lines 13 ff., a person skilled in the art will, it is respectfully submitted, recognize that:

1. the signal processing of these prior art pulse radar devices are based on an envelope signal, which represents the echo function, and

2. this echo function, represented by a digital echo function derived from the envelope signal, is a sequence of AMPLITUDE VALUES detected from a sequence of pulses transmitted/received by the pulse radar device, but this echo function does clearly NOT result from a sequence of MAGNITUDE VALUES detected from a high-frequency carried (= center-frequency, >50 kHz) amplitude modulated ZF-signal.

A major difference between the envelope (signal) as disclosed in the prior art and the intermediate signal as claimed in the present claims consist in the fact, whether a signal part corresponding with the high-frequency carrier is covered within the sampling sequence derived from the digitized mixer signal, or not.

Because both, the digitized mixer signals and the sampling sequences (= stored echo functions and echo profiles, respectively) of the prior art devices holds only amplitude information (please see Otto et al. col. 4, lines 16, Pantan et al. col. 4, line

15), neither from the (stored) echo function (= envelop signal HS) as disclosed in Otto et al., nor from the (stored) echo function (= echo profile) as disclosed in Woodward et al., the high-frequency carrier of the pulsed echo waves could be recovered. In contrast, both the intermediate-frequency signal (per se) as well as the finite sampling sequence, which does currently represent the intermediate-frequency signal, hold both, the amplitude information relating to amplitude of echo and the phase information relating to high-frequency carrier. Referring to Fig. 4 of Otto et al. and Fig. 6 of the present application shows that the envelope signal HS is the same as the envelope ENV of the present invention (please see page 15, line 24 - page 16, line 11).

Therefore, any rejection based on Otto et al. or Woodward et al. can only be based on a misinterpretation of the subject matter disclosed and claimed, especially the technical significance of the intermediate-frequency feature. In this regard, the examiner has recognized that Otto et al. does not disclose the digitizing and storing of the intermediate-frequency signal.

With respect to Fehrenbach et al. (DE 44 07 369) and McEwan (U.S. 6,492,933) it should be noted that there is disclosed neither the digitizing of an intermediate signal at the output of a transceiver unit of a level device nor the storing of a digitized intermediate signal within a non-volatile memory of the level device.

Claims 14, 22, 25, 26, 34, 40 - 44, 55 and 56 have been amended to render the invention clearer in view of the prior art and what has been stated above. In addition, new claims 63 - 82 have been added to further define the invention

The rejections based upon the judicially created doctrine of obviousness-type double patenting are noted and also respectfully traversed. The presently pending claims and the patent claims referred to by the examiner are sufficiently different to preclude the application of the noted double patenting doctrine.

The examiner's indication that claims 27, 41 - 44, 59 and 60 contain allowable subject matter is appreciated. In view of the comments made above and the amendments to the claims, these claims have been retained in their present format.

In view of the foregoing, reconsideration and re-examination are respectfully requested and claims 14 - 82 found allowable.

Date: July 5, 2005

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Felix J. D'Ambrosio', written over a horizontal line.

Felix J. D'Ambrosio
Reg. No. 25,721

BACON & THOMAS, PLLC
625 Slaters Lane, 4th Floor
Alexandria, VA 22314 - 1176
(703) 683-0500

S:\Producer\jfd\CLIENTS\Endress+Hauser Holding GmbH\SPAN3001\Amend of July 5 2005.wpd